Network Working Group
Request for Comments: 918

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POST OFFICE PROTOCOL

Status of this Memo

This RFC suggests a simple method for workstations to dynamically access mail from a mailbox server. This RFC specifies a proposed protocol for the ARPA-Internet community, and requests discussion and suggestions for improvement.

Introduction

The intent of the Post Office Protocol (POP) is to allow a user's workstation to access mail from a mailbox server. It is expected that mail will be posted from the workstation to the mailbox server via the Simple Mail Transfer Protocol (SMTP). For further information see RFC-821 [1] and RFC-822 [2].

The status of this protocol is experimental, and this protocol is dependent upon TCP.

The Protocol

The protocol is for the server to be listening for a connection. When a connection is opened the server sends a greeting message and waits for commands. When commands are received the server acts on them and responds with replies.

The client opens a connection, waits for the greeting, then sends the USER and then the PASS commands to establish authorization to access mailboxes. The client begins a mail reading transaction with either an RDEL (to read and delete all messages from a mailbox) or a RETR (to simply read all messages from a mailbox). The server opens and locks the mailbox, and responds with the number of characters in the mailbox. Then the client asks for the data to be sent by issuing the RCEV command. The server responds by sending the mail data. When all the data has been received the client sends the RCVD command. If the transaction started with the RDEL command the server now deletes the mail data from the mailbox. In any case, the server closes and unlocks the mailbox. The client terminates the session with the QUIT command.

The Normal Scenario

```
        Client                                  Server
        ------                                  ------
                                            Wait for Connection
   Open Connection  -->
                         <--  +OK
                            Wait for Command
   USER Fred        -->
                         <--  +OK
                            Wait for Command
   PASS password    -->
                         <--  +OK
                            Wait for Command
   RDEL mailbox     -->     (open and lock mailbox)
                         <--  #xxx
                            Wait for Command
   RCEV             -->
                         <--  (send a copy of mail)
                            Wait for Command
   RCVD             -->     (deletes mail from mailbox, unlock
                            and close mailbox)
                         <--  +OK
                            Wait for Command
   QUIT             -->
                         <--  +OK
   Close connection --> <--  Close connection
                            Wait for Connection (go back to start)
```

Definitions of Commands and Replies

Summary of Commands and Replies

Commands	Replies
USER name	+OK
PASS password	-Error
RETR mailbox	#xxx
RDEL mailbox	
RCEV	
RCVD	
QUIT	
NOOP	
RSET	

Commands

USER name

This command identifies the user to the server. It must be followed by the PASS command.

Possible responses: "+OK" or "-ERR"

PASS password

The PASS command carries the password authenticating this user. Together the USER name and PASS password are used by the server to control access to the mailboxes.

Possible responses: "+OK" or "-ERR"

RETR mailbox

This command begins a mail reading transaction. The RETR command is used to read all the messages in a mailbox without deleting them. It must be followed by the RCEV command.

Possible responses: "#xxx" or "-ERR"

RDEL mailbox

This command begins a mail reading transaction. The RDEL command is used to read all the messages in a mailbox and delete them. It must be followed by the RCEV command.

Possible responses: "#xxx" or "-ERR"

RCEV

This command confirms that the client is ready to receive the mail data. It must be followed by the RCVD command.

Possible responses: "+OK" or (connection aborted)

RCVD

This command confirms that the client has received and accepted the mail. The RCVD command ends the mail reading transaction. In the case of the RDEL transaction, it is possible that the mail is not necessarily deleted. This is indicated by an error reply.

Possible responses: "+OK" or "-ERR"

QUIT

This command indicates the client is done with the session. The server sends an OK response and then closes the connection.

Possible responses: "+OK" then Close

NOOP

This is the no operation command. It causes no action on the part of the server except an OK response.

Possible response: "+OK"

RSET

This command causes the server to abort the current transaction and return to waiting for a command (one of RDEL, RETR, QUIT, NOOP, or RSET). When aborting a transaction the server must take care to properly close and unlock the mailbox.

Possible response: "+OK"

Acknowledgment

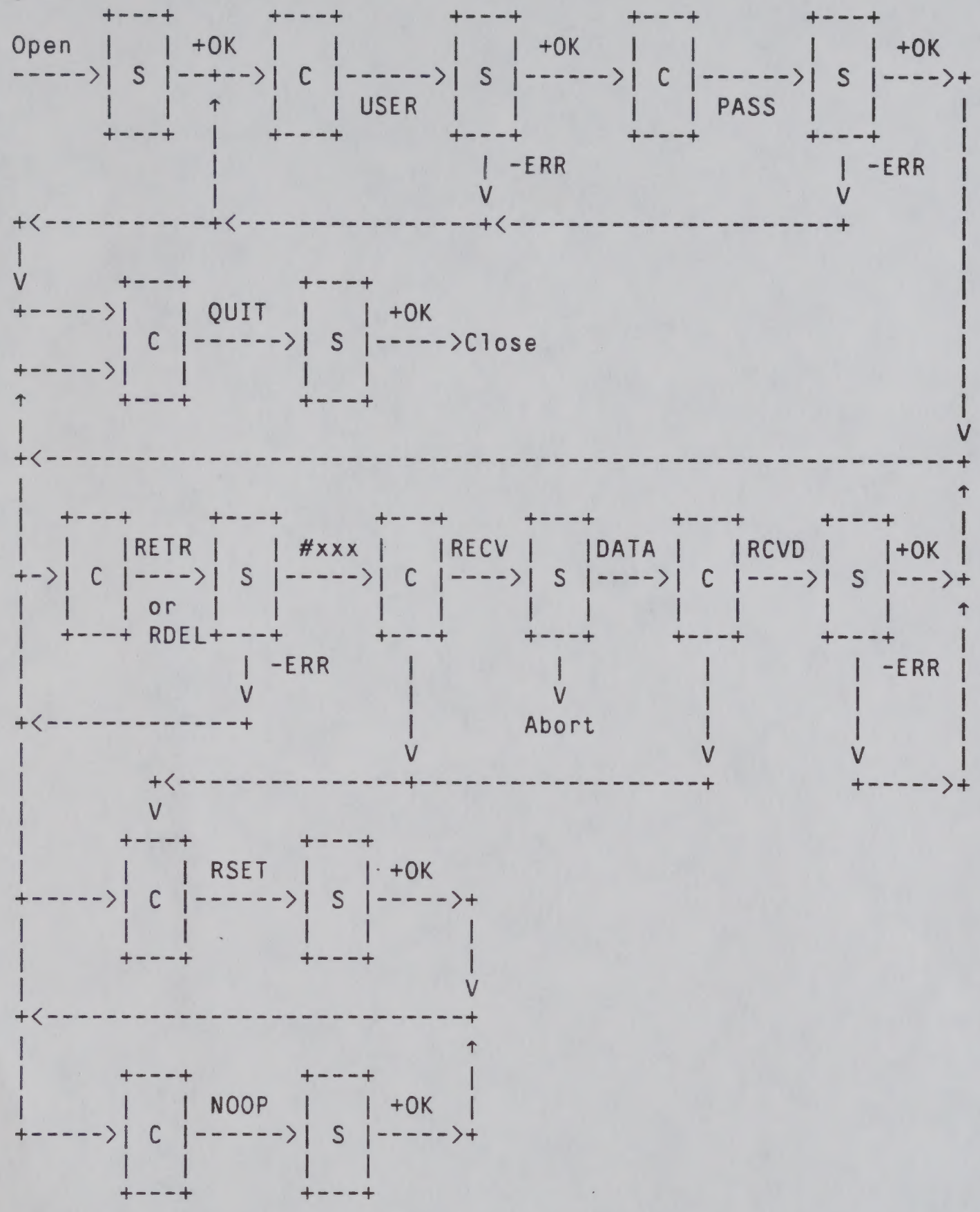
I would like to acknowledge the contributions of Jon Postel, Joel Goldberger, Dale Chase, and Michael Butler in the development of the Post Office Protocol.

References

[1] Postel, J., "Simple Mail Transfer Protocol", RFC-821, USC/Information Sciences Institute, August 1982.

[2] Crocker, D., "Standard for the Format of ARPA-Internet Text Messages", RFC-822, University of Delaware, August 1982.

Diagram


Open
+OK
USER
-ERR
+OK
PASS
-ERR
+OK
QUIT
+OK
Close
RETR
or
RDEL
#xxx
-ERR
RECV
DATA
RCVD
+OK
Abort
RSET
+OK
NOOP
+OK